

A Case of Pigmented Apocrine Hidrocystoma Occurring on the Vulva

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A 7-year-old female was presented with two black papules and linear pigmentation between papules on the vulva. No other abnormalities were found in her personal and family history. Histopathological examination was consistent with the apocrine hidrocystoma and the pigment in the luminal cells was iron negative and Fontana Masson positive, confirming its melanin nature.

We herein report a 7-year-old female patient with pigmented apocrine hidrocystoma occurring on the vulva with the evidence of melanin as the underlying mechanism of the pigmentation. (*Ann Dermatol* 13(3) 193~195, 2001).

Key Words : Apocrine hidrocystoma, Vulva, Pigmentation, Melanin

Apocrine hidrocystoma is a benign cystic neoplasm of the apocrine gland which was first described by Robinson in 1893¹. It usually affects adults and presents as a solitary, translucent nodule with a cystic consistency on the face². The lesion often has a blue hue and then resembles a blue nevus². The nature of this pigmentation is not yet understood.

We describe a 7-year-old female patient with pigmented apocrine hidrocystoma on the vulva with evidence of melanin as the underlying mechanism of the pigmentation.

CASE REPORT

A 7-year-old female child was presented with black papules on the vulva of several months' dura-

tion. She had not noticed any increase in its size with temperature or seasonal variation, and there was no family history of similar lesions. In addition, she gave no history of exposure to any drugs such as minocycline or silver salts that might result in pigmentation around apocrine glands. She was otherwise in good health.

Physical examination revealed pin-head sized two cystic papules and linear pigmentation between papules on the left labium major (Fig. 1). The skin overlying the lesion was smooth and shiny. She had no complaints of pain or tenderness.

A biopsy specimen taken from a black papule showed a cystic structure lined by a row of columnar epithelial cells. The cyst was filled with amorphous eosinophilic materials (Fig. 2). The luminal cells of the wall showed characteristic decapitation secretion indicative of apocrine secretion. The luminal cells contained prominent eosinophilic granules and diffuse brown to black pigments which were finely granular. Peripheral to the layer of secretory cells, elongated myoepithelial cells were observed (Fig. 3).

The granules of the secretory cells were positive with S-100 staining and PAS positive and diastase

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Fig. 1. Two cystic pin-head sized black papules and linear pigmentation between papules on the left labium major.

Fig. 2. The dermis contained cystic space which was filled with amorphous eosinophilic materials(H&E, $\times 40$).

Fig. 3. The luminal cells of the wall contained eosinophilic granules and showed characteristic decapitation secretion. And the luminal cells revealed accumulation of brown to black pigment. Peripheral to the layer of luminal cells, elongated myoepithelial cells were observed(H&E, $\times 400$).

Fig. 4. The pigment in the luminal cells was strongly positive with Fontana Masson staining(FM, $\times 100$).

negative. The pigments in the luminal cells were negative with iron staining, and strongly positive with Fontana Masson staining(Fig. 4).

DISCUSSION

Apocrine hidrocystoma is a benign cystic neoplasm of the apocrine gland which usually occur as a solitary, translucent nodule with a cystic consistency on the face². Other areas are only rarely affected. Apocrine hidrocystoma usually occurs in adults but in our case it occurred in childhood. The lesion often has a blue hue and can be clinically

confused with other pigmented tumors³. The nature of the pigmentation is not yet understood. There are several theories to explain the nature of the pigmentation.

Smith and Chernosky⁴ suggested that the pigmentation seen clinically may be due to the Tyndall phenomenon. Malhotra et al⁵ proposed that lipofuscin deposition contributed to the pigmentation of the apocrine hidrocystoma. The pigmentation also has been attributed in a few cases to extravasated erythrocytes in the surrounding stroma⁶. In our case, there was no evidence of old or recent hemorrhage in or around the cyst. Hematoxylin and

eosin sections of the present case revealed prominent eosinophilic granules and accumulation of brown to black pigments on the luminal cells. The granules were PAS positive and diastase negative which indicated the apocrine nature of the secretion of the luminal cells. The pigments in the luminal cells were negative with iron and strongly positive with Fontana Masson staining. Negative reactivity for iron staining supported the nature of granules had not attributed to extravasated erythrocytes. But luminal cells of the apocrine hidrocystoma may be negative with iron staining. Positive reactivity for Fontana Masson staining supported the nature of pigments in the luminal cells were melanin.

Because the lesion frequently has a bluish hue, apocrine hidrocystoma must be differential diagnosed with blue nevus². And it must be differential diagnosed with eccrine hidrocystoma. Eccrine hidrocystoma differ from apocrine hidrocystoma by the absence of decapitation secretion, of PAS-positive granules, and of myoepithelial cells.

It is not surprising that melanin and melanocytes are seen in apocrine hidrocystoma. Hashimoto et al⁷ described in eccrine sweat duct anlagen, in a 14-week-old embryo. Furthermore, active melanin transfer to tumor cells and melanocytic proliferation in various pigmented tumors has been reported⁸⁻¹⁰. Some authors suggested that carcinoma cells can acquire melanin granules by direct transfer from melanocyte¹⁰. A number of non-melanocytic epithelial and/or skin appendage tumors of the skin are pigmented.

We speculate that the pigmentation in our case are attributed to melanin accumulation in luminal

cells by active melanin transfer.

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